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ABSTRACT

This guide from the San Jose Unified School District describes recommended procedures to promote and maintain a healthy and safe school environment during maintenance, modernization, or construction. Guidelines are presented in the following areas: (1) construction safety; (2) communication; (3) material selection; (4) heating, ventilation, and air conditioning systems; (5) painting; (6) carpet installation; (7) asbestos abatement; (8) natural gas; (9) roofing; (10) modular classrooms; (11) integrated pest management; and (12) appropriate dress. (EV)

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SAN JOSE UNIFIED SCHOOL DISTRICT
HEALTH & SAFETY GUIDE
FOR FACILITIES AND CONSTRUCTION

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INTRODUCTION

The San Jose Unified School District is committed to providing a healthy and safe environment at all of its sites. The recommended procedures described in this Health and Safety Guide are designed to promote and maintain a healthy and safe environment during maintenance, modernization or construction.

This document was created in cooperation with the district's Auxiliary Services, Construction and Maintenance departments and is intended to both reaffirm the district's commitment to wellness and provide insights into specific maintenance or construction-related health and safety procedures and practices.

The document will also be presented to design professionals and contractors to be used during the planning and maintenance of district schools. The Health and Safety Guide is not intended to be a comprehensive manual or handbook for construction professionals. While it provides basic San Jose Unified School District health and safety concepts to be addressed, it is understood that construction work also will comply with federal, state and local laws, codes and regulations.

Chuck Corr,
Director, Facilities and Construction

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CONSTRUCTION SAFETY PROCEDURES

The purpose of this section is to provide an understanding of basic rules and procedures which are to be used by district staff, construction contractors and subcontractors.

This information is to be given to contractors at a pre-construction meeting conducted by the district's construction management supervisor. All individuals who have a responsibility for construction are required to be in attendance. Contractors are required to attend weekly meetings during construction. These meetings also are attended by the architects, design consultants, District personnel and the principal when appropriate. Safety is to be an item on every agenda.

Personnel must always work within the safety regulations imposed by the National Institute for Occupational Safety and Health (NIOSH) and the California Occupational Safety and Health Administration (CAL OSHA). In addition to those regulations, SJUSD requires that all workers comply with the following:

- There must always be a safety barrier between construction work and students. This isolation barrier may include fencing, temporary plastic sheeting, wood structures, or existing walls.
- Construction equipment and materials must be kept in the construction staging area. This area is removed from student activities and is to be secured with an isolation barrier.
- A specific area is to be identified for construction personnel parking. Contractors also are directed to arrive and leave the school grounds at times other than school beginning and dismissal times.
- Delivery vehicles are not to move across the school campus when students are outside. When crossing a campus, vehicles are to be accompanied by an employee on foot to act as additional security.
- Smoking or the consumption of alcoholic beverages is not allowed on the school grounds.
- Contractors must provide their own restroom facility. Construction personnel are not permitted to use student restrooms. District personnel should only use adult restrooms in school sites.
- Contractors are prohibited from allowing school personnel or students into the construction area.
- Construction contracts require dust mitigation and removal of construction debris in compliance with state and local requirements.
- Contractors must notify the school principal should it become necessary to temporarily disrupt utility, fire safety, communication, or HVAC systems.

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- Principals are directed to establish an emergency plan with teachers and students. Issues dealing with a response to air contaminants and other hazards are included in the San Jose Unified School District Site Disaster Preparedness Plan. This plan provides detailed directions for immediate responses and for securing support from public emergency response teams and/or district administration. Copies of the Disaster Preparedness Plan will be posted in all classrooms. Additional school plans may be developed to address modifications during construction. Such plans must have the approval of the Director of Facilities and Construction.

- Teachers and others involved in the day-to-day operation of the school are to report safety issues or noxious odors to the school principal immediately. Concerns from parents may also be expressed by direct communication with the principal. It will be the principal's responsibility to forward the report to the project manager and the Director of Facilities and Construction who will determine the appropriate response leading to identification and remediation of the problem.

MATERIAL SELECTION

While stopping short of specific mandated construction requirements, the California Department of Health Services and United States Environmental Protection Agency (EPA) strongly encourage the use of building materials with low emissions of volatile organic compounds (VOCs). VOCs are found in a wide range of commonly used construction materials such as carpet, composite wood products, wall fabric coverings, paints, particle board, adhesives, and various other materials. Some commonly found VOCs include acetone, benzene, chlorobenzene, ethyl acetate, formaldehyde, isobutyl alcohol, and toluene. Where possible, and particularly in situations where there exists a clear choice of materials, the product with the least VOC emission is to be selected.

The projected life of certain materials should also be a consideration. Materials that wear out quickly requiring more frequent replacement with additional emissions at each replacement cycle are to be avoided.

The impact of VOCs on air quality can be considerably mitigated by encapsulating materials and by prolonging ventilation. The encapsulation of material is used in maintenance and construction projects. Painting is used to decrease emissions from materials such as gypsum wallboard. All cabinetry is laminated with coverings inside and out to decrease the opportunity for emissions from chemicals such as formaldehyde.

Recommendations regarding the length of time devoted to ventilating new construction and renovated buildings vary (from twenty-four hours to ninety days). While the recommendations vary, it is clear that ample outside air ventilation is essential to ensure air quality both during and after construction. The district clearly recognizes the importance of this activity.

The materials and construction procedures described in this document are to be incorporated into the Project Manual specifications for each school scheduled for modernization. The specifications included in the project manual are enforceable per the standard contractual agreement between the San Jose Unified School District and contractor. A contractor's non-compliance with this agreement may result in a penalty such as a fee back charge or deductive change order under the conditions set forth in the Project Manual.

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Two types of paint are generally used in school construction: alkyd (hydrocarbon solvent-based), generally higher volatile organic compound (VOC) content; and latex (water-based), generally lower VOC content.

It is generally desirable to use a lower VOC emitting paint, namely a water-based paint. In some cases, however, durability becomes an important factor. A lower emitting paint may create more of a long term problem if it requires frequent applications.

The San Jose Unified School District will employ painting processes and procedures which protect students from high releases of chemicals inherent in paints. These practices will include the following:

- Paints containing lead or mercury will not be used.
- When practical, a latex (water-based) paint will be used.
- Interior wall surfaces will be painted with one coat of alkyd primer and two finish coats of water-based latex paint.
- Interior painting will be completed in unoccupied rooms. When possible, interior painting will occur during vacations and summers. When this is not possible, vapor barriers such as visquene or other plastic sheeting will be placed over doorways and connecting ventilation ducts.
- Rooms will receive extensive ventilation during painting. This ventilation may include continuous operation of the HV/HVAC system, open windows, and/or the use of fans.
- Exterior painting will generally be scheduled when the school is unoccupied. Should the need arise to paint during occupancy, care will be taken to close doors and windows, and establish unoccupied zones with fencing or caution tape. Consideration also will be given to eliminate the effect of prevailing winds and HV/HVAC intake ducts.

CARPET INSTALLATION

Carpet has been used in the San Jose Unified School District and many other districts since the early 1960's. Carpet has proven to be an excellent floor covering. It creates a pleasant classroom environment, greatly enhances classroom acoustics, and is easily maintained. Carpet difficulties may stem from wet carpet caused by roof leaks or poor plumbing, but this can be mitigated through proper maintenance and custodial service.

Consideration for carpet selection and installation includes:

- The San Jose Unified School District currently specifies Lee's Nylon Carpet for installation in all classrooms. This carpet carries the U.S. Carpet and Rug Institutes (CRI) Indoor Air Quality Testing Program Label.
- The district will use the lowest VOC emitting carpet adhesive which meets installation requirements.
- Carpet installation will be completed in unoccupied, well ventilated, rooms.

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- The San Jose Unified School District will maintain a file of all asbestos removal work and testing.

NATURAL GAS

Great care is used when working with gas lines. Specific strategies to ensure worker and user safety following construction include:

- Intermediate shutoffs are to be shut off at the meter and the line tagged when work is required on the lines or HVAC system.
- The Uniform Mechanical Code establishes specific regulations for installation of gas lines. The state building inspector is required to supervise the selection of materials and installation to ensure that the work complies with these regulations.
- Following installation of a gas line, the inspector is responsible for supervising a gas line pressure test which is designed to reveal any leaks or flaws in the system. Detailed records are maintained regarding the testing procedure and test results.
- The local public utility company does not assume the responsibility for testing of all construction lines. They do, however, serve as a resource when questions are raised regarding installation or problem analysis.

Only maintenance personnel appropriately trained to relight gas appliances may do so. Otherwise, PG&E is to be called to relight gas appliances.

ROOFING

Roofing work frequently involves application of products which contain VOCs. Exceptions to this are sloped roofs which may be covered with asphalt shingles or metal roofing. The most common district roofing application is a cold applied bitumen three ply roofing material covered with a final application of roofing granules.

In the interest of maintaining a safe environment during roof applications the district will adhere to the following practices:

- Roofing work will generally be completed during the summer, after school hours, on weekends, vacation periods, or when students are not in attendance. When this is not possible the work will be completed at a safe distance from ongoing school activities. Roofing work will not be completed adjacent to occupied rooms. Consideration will be given to establishing buffer zones and the effect of prevailing winds so odors will be carried away from occupied spaces.
- Heating, Ventilating, and Air Conditioning (HVAC) systems are to be shut down if there is any potential for roofing odors to be re-entrained into occupied areas.
- Roofing will be completed whenever possible during rainy days. This will help to prevent build up of gas bubbles that dissipate during hot weather causing air quality concerns.

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INTEGRATED PEST MANAGEMENT

It is the policy of San Jose Unified School District that the least toxic pest management practices are the preferred method of managing pests and that the District, in order to reduce everyone's exposure to toxic pesticides, shall take the necessary steps pursuant to Food and Agriculture Code section 13180 to facilitate the least toxic pest management practices at all sites.

The District's Integrated Pest Management (IPM) program sequences through education, habitat management, alteration of maintenance activities, physical, biological, and then chemical controls. Regular monitoring may involve visual observation, use of tracking powders, baiting and trapping.

The District will out source to a licensed company when using chemical control for pest management . The following pesticides will be used:

Exterior of buildings for the control of ants and roaches	1.FMC ASTRO EPA# 279-3141
Fence lines and dirt areas for the control of weeds	Monsanto Round-Up PRO EPA# 524-475 Drexel Diuron 80 EPA# 19713-274

Notification of chemical control is required and will be visible to all persons entering the treated area and shall be posted 24 hours prior to the application and remain posted until 72 hours after the application. (EC17612 (e)). Site administration will also be notified in advance of chemical control methods being applied.

The complete Integrated Pest Management (IPM) document is available from both the Grounds and Risk Management departments.

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ADDENDUM

APPROPRIATE DRESS

All persons working on school sites must dress appropriately. Examples of dress which is not appropriate include:

- clothing, buttons or equipment which show obscene words or pictures, ethnic or religious slurs, sexually suggestive statements, or that promote illegal crew, tagging or gang-related activities including the use of alcohol, marijuana, tobacco and drugs
- Clothing/colors or paraphernalia related to juvenile or adult gang-related activities

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